



SEQUENCE LISTING

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The Government of the United States of America  
as represented by The Secretary of the  
Department of Health and Human Services

<120> Anti-CD30 Stalk and Anti-CD30 Antibodies Suitable for  
Use in Immunotoxins

<130> 015280-464200US

<140> US 10/516,766  
<141> 2004-12-03

<150> US 60/387,293  
<151> 2002-06-07

<150> US 60/411,032  
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<160> 41

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<210> 1  
<211> 595  
<212> PRT  
<213> Homo sapiens

<220>  
<223> CD 30 antigen, tumor necrosis factor receptor  
superfamily, member 8, isoform 1 precursor  
(TNFRSF8), Ki-1 antigen, cytokine receptor CD30,  
lymphocyte activation antigen CD30, CD30L receptor

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Met Arg Val Leu Leu Ala Ala Leu Gly Leu Leu Phe Leu Gly Ala Leu  
1 5 10 15  
Arg Ala Phe Pro Gln Asp Arg Pro Phe Glu Asp Thr Cys His Gly Asn  
20 25 30  
Pro Ser His Tyr Tyr Asp Lys Ala Val Arg Arg Cys Cys Tyr Arg Cys  
35 40 45  
Pro Met Gly Leu Phe Pro Thr Gln Gln Cys Pro Gln Arg Pro Thr Asp  
50 55 60  
Cys Arg Lys Gln Cys Glu Pro Asp Tyr Tyr Leu Asp Glu Ala Asp Arg  
65 70 75 80

Cys	Thr	Ala	Cys	Val	Thr	Cys	Ser	Arg	Asp	Asp	Leu	Val	Glu	Lys	Thr	
				85					90					95		
Pro	Cys	Ala	Trp	Asn	Ser	Ser	Arg	Val	Cys	Glu	Cys	Arg	Pro	Gly	Met	
			100					105					110			
Phe	Cys	Ser	Thr	Ser	Ala	Val	Asn	Ser	Cys	Ala	Arg	Cys	Phe	Phe	His	
		115					120					125				
Ser	Val	Cys	Pro	Ala	Gly	Met	Ile	Val	Lys	Phe	Pro	Gly	Thr	Ala	Gln	
	130					135					140					
Lys	Asn	Thr	Val	Cys	Glu	Pro	Ala	Ser	Pro	Gly	Val	Ser	Pro	Ala	Cys	
145					150					155					160	
Ala	Ser	Pro	Glu	Asn	Cys	Lys	Glu	Pro	Ser	Ser	Gly	Thr	Ile	Pro	Gln	
				165					170					175		
Ala	Lys	Pro	Thr	Pro	Val	Ser	Pro	Ala	Thr	Ser	Ser	Ala	Ser	Thr	Met	
			180					185					190			
Pro	Val	Arg	Gly	Gly	Thr	Arg	Leu	Ala	Gln	Glu	Ala	Ala	Ser	Lys	Leu	
		195					200					205				
Thr	Arg	Ala	Pro	Asp	Ser	Pro	Ser	Ser	Val	Gly	Arg	Pro	Ser	Ser	Asp	
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Pro	Gly	Leu	Ser	Pro	Thr	Gln	Pro	Cys	Pro	Glu	Gly	Ser	Gly	Asp	Cys	
225					230					235				240		
Arg	Lys	Gln	Cys	Glu	Pro	Asp	Tyr	Tyr	Leu	Asp	Glu	Ala	Gly	Arg	Cys	
				245					250					255		
Thr	Ala	Cys	Val	Ser	Cys	Ser	Arg	Asp	Asp	Leu	Val	Glu	Lys	Thr	Pro	
			260					265					270			
Cys	Ala	Trp	Asn	Ser	Ser	Arg	Thr	Cys	Glu	Cys	Arg	Pro	Gly	Met	Ile	
		275					280					285				
Cys	Ala	Thr	Ser	Ala	Thr	Asn	Ser	Cys	Ala	Arg	Cys	Val	Pro	Tyr	Pro	
		290				295					300					
Ile	Cys	Ala	Ala	Glu	Thr	Val	Thr	Lys	Pro	Gln	Asp	Met	Ala	Glu	Lys	
305					310					315				320		
Asp	Thr	Thr	Phe	Glu	Ala	Pro	Pro	Leu	Gly	Thr	Gln	Pro	Asp	Cys	Asn	
				325					330					335		
Pro	Thr	Pro	Glu	Asn	Gly	Glu	Ala	Pro	Ala	Ser	Thr	Ser	Pro	Thr	Gln	
			340					345					350			
Ser	Leu	Leu	Val	Asp	Ser	Gln	Ala	Ser	Lys	Thr	Leu	Pro	Ile	Pro	Thr	
		355					360					365				
Ser	Ala	Pro	Val	Ala	Leu	Ser	Ser	Thr	Gly	Lys	Pro	Val	Leu	Asp	Ala	
		370				375					380					
Gly	Pro	Val	Leu	Phe	Trp	Val	Ile	Leu	Val	Leu	Val	Val	Val	Val	Gly	
385					390					395					400	

Ser Ser Ala Phe Leu Leu Cys His Arg Arg Ala Cys Arg Lys Arg Ile  
                     405                    410                    415  
 Arg Gln Lys Leu His Leu Cys Tyr Pro Val Gln Thr Ser Gln Pro Lys  
                     420                    425                    430  
 Leu Glu Leu Val Asp Ser Arg Pro Arg Arg Ser Ser Thr Gln Leu Arg  
                     435                    440                    445  
 Ser Gly Ala Ser Val Thr Glu Pro Val Ala Glu Glu Arg Gly Leu Met  
                     450                    455                    460  
 Ser Gln Pro Leu Met Glu Thr Cys His Ser Val Gly Ala Ala Tyr Leu  
 465                    470                    475                    480  
 Glu Ser Leu Pro Leu Gln Asp Ala Ser Pro Ala Gly Gly Pro Ser Ser  
                     485                    490                    495  
 Pro Arg Asp Leu Pro Glu Pro Arg Val Ser Thr Glu His Thr Asn Asn  
                     500                    505                    510  
 Lys Ile Glu Lys Ile Tyr Ile Met Lys Ala Asp Thr Val Ile Val Gly  
                     515                    520                    525  
 Thr Val Lys Ala Glu Leu Pro Glu Gly Arg Gly Leu Ala Gly Pro Ala  
                     530                    535                    540  
 Glu Pro Glu Leu Glu Glu Glu Leu Glu Ala Asp His Thr Pro His Tyr  
 545                    550                    555                    560  
 Pro Glu Gln Glu Thr Glu Pro Pro Leu Gly Ser Cys Ser Asp Val Met  
                     565                    570                    575  
 Leu Ser Val Glu Glu Glu Gly Lys Glu Asp Pro Leu Pro Thr Ala Ala  
                     580                    585                    590  
 Ser Gly Lys  
                     595

<210> 2  
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 <212> PRT  
 <213> Mus musculus

<220>  
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           monoclonal antibody (MAb) T6

<400> 2  
 Gln Val Gln Leu Lys Glu Ser Gly Pro Gly Leu Val Thr Pro Ser Gln  
   1                    5                    10                    15  
 Ser Leu Ser Ile Thr Cys Thr Val Ser Gly Phe Ser Leu Ser Lys Tyr  
                     20                    25                    30  
 Ser Ile His Trp Val Arg Gln Pro Pro Gly Arg Gly Leu Glu Trp Leu  
                     35                    40                    45  
 Gly Met Ile Trp Gly Val Glu Asn Thr Asp Tyr Asn Ser Ala Leu Lys  
   50                    55                    60

Ser Arg Leu Ser Ile Ser Lys Asp Asn Ser Lys Ser Gln Val Phe Leu  
65 70 75 80

Lys Met Asn Ser Leu Gln Ser Asp Asp Thr Ala Met Tyr Tyr Cys Ala  
85 90 95

Arg Lys Asp Leu Gly Leu Tyr Gly Met Asn Tyr Trp Gly Gln Gly Ile  
100 105 110

Ser Val Thr Val Ser Ala  
115

<210> 3  
<211> 120  
<212> PRT  
<213> Mus musculus

<220>  
<223> heavy chain variable region (VH) of anti-CD30  
monoclonal antibody (MAB) T7

<400> 3  
Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Arg Pro Gly Ser  
1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Ser Tyr  
20 25 30

Trp Met Asn Trp Met Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile  
35 40 45

Gly Gln Ile Tyr Pro Gly Asp Asp Asp Thr Asn Tyr Asn Gly Lys Phe  
50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr  
65 70 75 80

Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys  
85 90 95

Ala Arg Arg Glu Thr Gly Arg Gly Ala Trp Phe Thr Tyr Trp Gly Gln  
100 105 110

Gly Thr Leu Val Thr Val Ser Ala  
115 120

<210> 4  
<211> 120  
<212> PRT  
<213> Mus musculus

<220>  
<223> heavy chain variable region (VH) of anti-CD30  
monoclonal antibody (MAB) T13

<400> 4  
Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Ala Lys Pro Gly Ala  
1 5 10 15

Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Thr Tyr  
                     20                    25                    30  
 Trp Met His Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile  
                     35                    40                    45  
 Gly Tyr Ile Asn Pro Ser Thr Gly Tyr Thr Asp Tyr Asn Glu Lys Phe  
                     50                    55                    60  
 Lys Asp Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr  
                     65                    70                    75                    80  
 Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys  
                     85                    90                    95  
 Val Arg Arg Gly Ser Tyr Asp Gly Asn Pro Phe Ala Tyr Trp Gly Gln  
                     100                    105                    110  
 Gly Thr Leu Val Ser Val Ser Ala  
                     115                    120

<210> 5  
 <211> 117  
 <212> PRT  
 <213> Mus musculus

<220>  
 <223> heavy chain variable region (VH) of anti-CD30  
           monoclonal antibody (MAb) T14

<400> 5  
 Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Gly  
           1                    5                    10                    15  
 Ser Leu Lys Leu Ser Cys Gly Val Ser Gly Phe Thr Phe Ser Asp Tyr  
                     20                    25                    30  
 Tyr Met Tyr Trp Val Arg Gln Thr Pro Glu Lys Arg Leu Glu Trp Val  
                     35                    40                    45  
 Ala Ser Ile Ser Ser Gly Gly Ser Tyr Thr Tyr Tyr Ser Asp Ser Val  
                     50                    55                    60  
 Lys Gly Arg Leu Thr Ile Ser Arg Asp Asn Thr Lys Asn Asn Leu Tyr  
                     65                    70                    75                    80  
 Leu Gln Met Ser Ser Leu Lys Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
                     85                    90                    95  
 Val Arg Gly Pro Gly Gly Val Leu Asp Tyr Trp Gly Gln Gly Thr Thr  
                     100                    105                    110  
 Leu Thr Val Ser Ser  
                     115

<210> 6  
 <211> 119  
 <212> PRT  
 <213> Mus musculus

<220>

<223> heavy chain variable region (VH) of anti-CD30  
monoclonal antibody (MAb) T24

<400> 6

Gln Val Gln Leu Gln Gln Pro Gly Ala Glu Leu Val Arg Pro Gly Ala  
1 5 10 15

Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Ser Tyr  
20 25 30

Trp Ile Asp Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile  
35 40 45

Gly Asn Ile Tyr Pro Ser Asn Ala Tyr Thr Asn Tyr Asn Gln Lys Phe  
50 55 60

Lys Asp Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Ser Thr Ala Tyr  
65 70 75 80

Met Gln Leu Ser Ser Pro Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys  
85 90 95

Thr Ser Val Leu Asp Tyr Phe Tyr Ala Met Asp Tyr Trp Gly Gln Gly  
100 105 110

Thr Ser Val Thr Val Ser Ser  
115

<210> 7

<211> 118

<212> PRT

<213> Mus musculus

<220>

<223> heavy chain variable region (VH) of anti-CD30  
monoclonal antibody (MAb) T25

<400> 7

Gln Val Thr Leu Lys Glu Ser Gly Pro Gly Ile Leu Gln Pro Ser Gln  
1 5 10 15

Thr Leu Ser Leu Thr Cys Ser Phe Ser Gly Phe Ser Leu Asn Thr Ser  
20 25 30

Gly Val Gly Val Gly Trp Ile Arg Gln Pro Ser Gly Lys Gly Leu Glu  
35 40 45

Trp Leu Ala His Ile Trp Trp Asp Asp Asp Glu Arg Tyr Asn Pro Val  
50 55 60

Leu Lys Ser Arg Leu Thr Ile Ser Lys Asp Thr Ser Ser Asn Gln Val  
65 70 75 80

Phe Leu Lys Ile Ala Asn Val Asp Thr Ala Asp Ser Ala Thr Tyr Tyr  
85 90 95

Cys Val Arg Ser Met Val Ala Trp Phe Pro Tyr Trp Gly Arg Gly Thr  
 100 105 110

Leu Val Thr Val Ser Ala  
 115

<210> 8  
 <211> 125  
 <212> PRT  
 <213> Mus musculus

<220>  
 <223> heavy chain variable region (VH) of anti-CD30  
 monoclonal antibody (MAb) control HeFi-I

<400> 8  
 Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly  
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Thr Ser Gly Phe Thr Phe Ser Asp Tyr  
 20 25 30

Tyr Met Asn Trp Val Arg Gln Pro Pro Gly Lys Ala Leu Glu Trp Leu  
 35 40 45

Gly Phe Ile Arg Asn Lys Ala Asn Gly Tyr Thr Thr Glu Phe Ser Ala  
 50 55 60

Ser Val Met Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Gln Ser Ile  
 65 70 75 80

Leu Tyr Leu Gln Met Asn Thr Leu Arg Ala Glu Asp Ser Ala Thr Tyr  
 85 90 95

Tyr Cys Ala Arg Asp Pro Pro Tyr Gly Asn Pro His Tyr Tyr Ala Met  
 100 105 110

Asp Tyr Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser  
 115 120 125

<210> 9  
 <211> 121  
 <212> PRT  
 <213> Mus musculus

<220>  
 <223> heavy chain variable region (VH) of anti-CD30  
 monoclonal antibody (MAb) CL2

<400> 9  
 Glu Val Gln Leu Lys Gln Ser Gly Thr Glu Leu Val Lys Pro Gly Ala  
 1 5 10 15

Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr  
 20 25 30

Trp Met His Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile  
 35 40 45

Gly Asn Ile Asn Pro Ser Asn Gly Gly Thr Asn Tyr Asn Glu Lys Phe  
     50                    55                    60  
 Lys Ser Lys Ala Thr Leu Thr Ile Asp Lys Ser Ser Ser Thr Ala Tyr  
     65                    70                    75                    80  
 Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys  
                     85                    90                    95  
 Ala Arg Arg Thr Glu Thr Ala Gln Ala Ser Pro Phe Ala Tyr Trp Gly  
                     100                    105                    110  
 Gln Gly Thr Leu Val Thr Val Ser Ser  
     115                    120

<210> 10  
 <211> 120  
 <212> PRT  
 <213> Mus musculus

<220>  
 <223> heavy chain variable region (VH) of anti-CD30  
         monoclonal antibody (MAb) Ki-4

<400> 10  
 Gln Val Lys Leu Gln Glu Ser Gly Thr Glu Leu Ala Lys Pro Gly Ala  
     1                    5                    10                    15  
 Ala Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr  
             20                    25                    30  
 Trp Met His Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile  
             35                    40                    45  
 Gly Tyr Ile Asn Pro Asn Thr Ala Tyr Thr Asp Tyr Asn Gln Lys Phe  
     50                    55                    60  
 Lys Asp Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr  
     65                    70                    75                    80  
 Met Gln Leu Arg Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys  
             85                    90                    95  
 Ala Lys Lys Thr Thr Gln Thr Thr Trp Gly Phe Pro Phe Trp Gly Gln  
             100                    105                    110  
 Gly Thr Leu Val Thr Val Ser Ser  
     115                    120

<210> 11  
 <211> 120  
 <212> PRT  
 <213> Mus musculus

<220>  
 <223> heavy chain variable region (VH) of anti-CD30  
         monoclonal antibody (MAb) T420



<400> 11  
 Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Ala Lys Pro Gly Ala  
     1                    5                    10                    15  
 Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr  
             20                    25                    30  
 Trp Met His Trp Val Lys Gln Arg Pro Gly Gln Asp Leu Glu Trp Ile  
             35                    40                    45  
 Gly Tyr Ile Asn Pro Ser Thr Asp Tyr Thr Asp Tyr Asn Gln Lys Phe  
             50                    55                    60  
 Lys Asp Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr  
             65                    70                    75                    80  
 Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys  
             85                    90                    95  
 Ala Thr Arg His Tyr Gly Ser Ser Tyr Gly Phe Ala Tyr Trp Gly Gln  
             100                    105                    110  
 Gly Thr Leu Val Thr Val Ser Ala  
             115                    120

<210> 12  
 <211> 119  
 <212> PRT  
 <213> Mus musculus

<220>  
 <223> heavy chain variable region (VH) of anti-CD30  
 monoclonal antibody (MAB) T427

<400> 12  
 Gln Val Gln Leu Gln Gln Pro Gly Thr Glu Leu Val Arg Pro Gly Ala  
     1                    5                    10                    15  
 Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Phe Ser Phe Thr Ser Tyr  
             20                    25                    30  
 Trp Met Asn Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile  
             35                    40                    45  
 Gly Met Ile His Pro Ser Asp Ser Glu Thr Arg Leu Asn Gln Lys Phe  
             50                    55                    60  
 Lys Asp Arg Ala Thr Leu Thr Val Asp Lys Ser Ser Ser Thr Ala Tyr  
             65                    70                    75                    80  
 Met Gln Leu Ser Ser Pro Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys  
             85                    90                    95  
 Ala Ser Glu Met Asp Tyr Tyr Phe Ala Met Asp Tyr Trp Gly Gln Gly  
             100                    105                    110  
 Thr Ser Val Thr Val Ser Ser  
             115

<210> 13  
 <211> 112  
 <212> PRT  
 <213> Mus musculus

<220>  
 <223> heavy chain variable region (VH) of anti-CD30  
 monoclonal antibody (MAb) T405

<400> 13  
 Gln Val Gln Leu Gln Gln Ile Gly Ala Glu Leu Val Arg Pro Gly Ala  
   1                  5                  10                  15  
 Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Asn Asn Tyr  
           20                  25                  30  
 Trp Ile Asn Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile  
           35                  40                  45  
 Gly Asn Ile Tyr Pro Ser Asp Ser Arg Ser Asn Tyr Asn Gln Lys Phe  
       50                  55                  60  
 Lys Asp Lys Ala Thr Leu Thr Val Asp Lys Pro Ser Ser Thr Ala Tyr  
       65                  70                  75                  80  
 Met Gln Leu Ser Ser Pro Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys  
           85                  90                  95  
 Thr Leu Gly Ser Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ala  
           100                  105                  110

<210> 14  
 <211> 121  
 <212> PRT  
 <213> Mus musculus

<220>  
 <223> heavy chain variable region (VH) of anti-CD30  
 monoclonal antibody (MAb) T105

<400> 14  
 Gln Val Thr Leu Lys Glu Ser Gly Pro Gly Ile Leu Gln Pro Ser Gln  
   1                  5                  10                  15  
 Thr Leu Ser Leu Thr Cys Ser Phe Ser Gly Phe Ser Leu Ser Thr Ser  
           20                  25                  30  
 Gly Met Gly Val Ser Trp Ile Arg Gln Pro Ser Gly Lys Asp Leu Glu  
       35                  40                  45  
 Trp Leu Ala His Ile Tyr Trp Asp Asp Asp Lys Arg Tyr Asn Pro Ser  
       50                  55                  60  
 Leu Lys Ser Arg Leu Thr Ile Ser Lys Asp Thr Ser Ser Asn Gln Val  
       65                  70                  75                  80  
 Phe Leu Lys Ile Thr Ser Val Asp Thr Ala Asp Thr Ala Thr Tyr Tyr  
           85                  90                  95

Cys Ala Arg Arg Ala Asp Gly Leu Tyr Phe Tyr Leu Asp Val Trp Gly  
100 105 110

Ala Gly Thr Thr Val Thr Val Ser Ser  
115 120

<210> 15  
<211> 109  
<212> PRT  
<213> Mus musculus

<220>  
<223> light chain variable region (VL) of anti-CD30  
monoclonal antibody (MAb) T6

<400> 15  
Asp Ile Val Met Thr Gln Ser Gln Lys Phe Met Ser Thr Ser Val Gly  
1 5 10 15

Asp Arg Val Ser Val Thr Cys Lys Ala Ser Gln Asn Val Gly Thr Asn  
20 25 30

Val Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys Ala Leu Phe  
35 40 45

Tyr Ser Ala Ser Tyr Arg Tyr Ser Gly Val Pro Asp Arg Phe Ile Gly  
50 55 60

Ser Gly Ser Gly Thr Val Phe Thr Leu Thr Ile Ser Asn Val Gln Ser  
65 70 75 80

Glu Asp Leu Ala Glu Tyr Phe Cys Gln Gln Tyr Asn Thr Tyr Pro Leu  
85 90 95

Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Glu Arg Ala  
100 105

<210> 16  
<211> 114  
<212> PRT  
<213> Mus musculus

<220>  
<223> light chain variable region (VL) of anti-CD30  
monoclonal antibody (MAb) T7

<400> 16  
Asp Ile Val Leu Thr Gln Ser Pro Ala Ser Leu Ala Val Ser Leu Gly  
1 5 10 15

Gln Arg Ala Thr Ile Ser Cys Arg Ala Ser Glu Ser Leu Glu Tyr Tyr  
20 25 30

Gly Thr Thr Leu Met Gln Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro  
35 40 45

Lys Leu Leu Ile Tyr Ala Ala Ser Asn Val Glu Ser Gly Val Pro Ala  
50 55 60

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Ser Leu Asn Ile His  
65 70 75 80

Pro Val Glu Glu Asp Asp Ile Ala Met Tyr Phe Cys His Gln Ser Arg  
85 90 95

Lys Val Pro Ser Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg  
100 105 110

Ala Asp

<210> 17  
<211> 109  
<212> PRT  
<213> Mus musculus

<220>  
<223> light chain variable region (VL) of anti-CD30  
monoclonal antibody (MAb) T13

<400> 17  
Asp Ile Val Met Thr Gln Ser His Lys Phe Met Ser Thr Ser Val Gly  
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asp Val Ser Thr Ala  
20 25 30

Val Ala Trp Tyr Gln Gln Lys Pro Gly His Ser Pro Lys Leu Leu Ile  
35 40 45

Tyr Trp Ala Ser Thr Arg His Thr Gly Val Pro Asp Arg Phe Thr Gly  
50 55 60

Ser Gly Ser Gly Thr Asp Tyr Thr Leu Thr Ile Ser Ser Val Gln Val  
65 70 75 80

Glu Asp Leu Ala Leu Tyr Tyr Cys Gln Gln His Tyr Ser Thr Pro Phe  
85 90 95

Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys Arg Ala  
100 105

<210> 18  
<211> 115  
<212> PRT  
<213> Mus musculus

<220>  
<223> light chain variable region (VL) of anti-CD30  
monoclonal antibody (MAb) T14-A

<400> 18  
Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Pro Val Ser Leu Gly  
1 5 10 15

Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Asn Leu Ile His Ser  
20 25 30

Asn Gly Asn Ala Tyr Leu Gln Trp Tyr Leu Gln Lys Pro Gly Gln Ser  
           35                          40                          45  
 Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro  
           50                          55                          60  
 Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Ala Leu Lys Ile  
           65                          70                          75                          80  
 Ile Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Phe Cys Ser Gln Thr  
                           85                          90                          95  
 Thr His Val Pro Tyr Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys  
                   100                  105                  110  
 Arg Ala Asp  
           115

<210> 19  
 <211> 114  
 <212> PRT  
 <213> Mus musculus

<220>  
 <223> light chain variable region (VL) of anti-CD30  
           monoclonal antibody (MAb) T14-B

<400> 19  
 Asp Ile Val Leu Thr Gln Ser Pro Ala Ser Leu Ala Val Ser Leu Gly  
   1                  5                  10                  15  
 Gln Arg Ala Thr Ile Ser Cys Arg Ala Ser Glu Ser Leu Glu Tyr Tyr  
           20                  25                  30  
 Gly Thr Thr Leu Met Gln Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro  
           35                  40                  45  
 Lys Leu Leu Ile Tyr Ala Ala Ser Asn Val Glu Ser Gly Val Pro Ala  
           50                  55                  60  
 Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Ser Leu Asn Ile His  
           65                  70                  75                  80  
 Pro Val Glu Glu Asp Asp Ile Ala Met Tyr Phe Cys His Gln Ser Arg  
                   85                  90                  95  
 Lys Val Pro Ser Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg  
           100                  105                  110  
 Ala Asp

<210> 20  
 <211> 109  
 <212> PRT  
 <213> Mus musculus

<220>  
 <223> light chain variable region (VL) of anti-CD30  
           monoclonal antibody (MAb) T21

<400> 20  
 Asp Ile Gln Met Asn Gln Ser Pro Ser Ser Leu Ser Ala Ser Leu Gly  
           1                  5                  10                  15  
 Asp Thr Ile Thr Ile Thr Cys His Ala Ser Gln Asn Ile Asn Val Trp  
                   20                  25                  30  
 Leu Thr Trp Tyr Gln Gln Lys Pro Gly Asn Ile Pro Gln Leu Leu Ile  
           35                  40                  45  
 Tyr Lys Ala Ser Asn Leu His Thr Gly Val Pro Ser Arg Phe Ser Gly  
           50                  55                  60  
 Ser Gly Ser Gly Thr Gly Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro  
           65                  70                  75                  80  
 Glu Asp Ile Ala Thr Tyr Tyr Cys Gln Gln Gly Gln Ser Tyr Pro Leu  
                   85                  90                  95  
 Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys Arg Ala  
                   100                  105

<210> 21  
 <211> 109  
 <212> PRT  
 <213> Mus musculus

<220>  
 <223> light chain variable region (VL) of anti-CD30  
           monoclonal antibody (MAb) T24

<400> 21  
 Asp Ile Gln Met Thr Gln Thr Thr Ser Ser Leu Ser Ala Ser Leu Gly  
           1                  5                  10                  15  
 Asp Arg Val Thr Ile Ser Cys Arg Ala Ser Gln Asp Ile Ser Asn Tyr  
           20                  25                  30  
 Leu Asn Trp Tyr Gln Gln Lys Pro Asp Gly Thr Val Lys Leu Leu Ile  
           35                  40                  45  
 Tyr Tyr Thr Ser Arg Leu His Ser Gly Val Pro Ser Arg Phe Ser Gly  
           50                  55                  60  
 Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Ser Asn Leu Glu Gln  
           65                  70                  75                  80  
 Glu Asp Ile Ala Thr Tyr Phe Cys Gln Gln Val Asn Thr Leu Pro Arg  
                   85                  90                  95  
 Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg Ala  
                   100                  105

<210> 22  
 <211> 116  
 <212> PRT  
 <213> Mus musculus

<220>

<223> light chain variable region (VL) of anti-CD30  
monoclonal antibody (MAb) T25

<400> 22

Asp Ile Val Met Ser Gln Ser Pro Ser Ser Leu Ala Val Ser Val Gly  
1 5 10 15  
Glu Lys Phe Thr Val Asn Cys Lys Ser Ser Gln Ser Leu Leu Tyr Ser  
20 25 30  
Ser Asn Gln Lys Asn Phe Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln  
35 40 45  
Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val  
50 55 60  
Pro Asp Arg Phe Ile Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr  
65 70 75 80  
Ile Ser Ser Val Lys Ala Glu Asp Leu Ala Val Tyr Tyr Cys Gln Gln  
85 90 95  
His Tyr Arg Tyr Pro Trp Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile  
100 105 110  
Lys Arg Ala Arg  
115

<210> 23

<211> 113

<212> PRT

<213> Mus musculus

<220>

<223> light chain variable region (VL) of anti-CD30  
monoclonal antibody (MAb) control HeFi-I

<400> 23

Asp Ile Val Leu Thr Gln Ser Pro Ala Ser Leu Ala Val Ser Leu Gly  
1 5 10 15  
Gln Arg Ala Thr Ile Ser Cys Arg Ala Ser Lys Ser Val Ser Ala Ser  
20 25 30  
Gly Tyr Asn Tyr Met His Trp Tyr Gln Gln Lys Ala Gly Gln Pro Pro  
35 40 45  
Lys Leu Leu Ile His Leu Ala Ser Asn Leu Glu Ser Gly Val Pro Ala  
50 55 60  
Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Asn Ile His  
65 70 75 80  
Pro Val Glu Glu Glu Asp Ala Ser Thr Tyr Tyr Cys Gln His Ser Gly  
85 90 95

Glu Leu Pro Phe Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys Arg  
 100 105 110

Ala

<210> 24  
 <211> 107  
 <212> PRT  
 <213> Mus musculus

<220>  
 <223> light chain variable region (VL) of anti-CD30  
 monoclonal antibody (MAb) CL2

<400> 24  
 Asp Ile Val Met Thr Gln Ser His Lys Phe Met Ser Thr Ser Val Gly  
 1 5 10 15  
 Asp Arg Val Ser Val Thr Cys Lys Ala Ser Gln Asn Val Gly Thr Asn  
 20 25 30  
 Val Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys Ala Leu Ile  
 35 40 45  
 Tyr Ser Ala Ser Thr Arg Tyr Ser Gly Val Pro Asp Arg Phe Thr Gly  
 50 55 60  
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asn Val Gln Ser  
 65 70 75 80  
 Glu Asp Leu Ala Glu Tyr Phe Cys Gln Gln Tyr Asn Ser Tyr Pro Phe  
 85 90 95  
 Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys  
 100 105

<210> 25  
 <211> 107  
 <212> PRT  
 <213> Mus musculus

<220>  
 <223> light chain variable region (VL) of anti-CD30  
 monoclonal antibody (MAb) Ki-4

<400> 25  
 Asp Ile Val Leu Thr Gln Ser His Lys Ser Met Ala Met Ser Val Gly  
 1 5 10 15  
 Glu Arg Val Thr Leu Ser Cys Lys Ala Ser Glu Asn Val Asp Ser Phe  
 20 25 30  
 Val Ser Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys Ala Leu Ile  
 35 40 45  
 Tyr Gly Ala Ser Asn Arg His Ser Gly Val Pro Asp Arg Phe Ala Gly  
 50 55 60



Ser Gly Ser Gly Arg Asp Phe Thr Leu Thr Ile Ser Ser Val Gln Ala  
65 70 75 80

Glu Asp Leu Ala Asp Tyr His Cys Gln Gln Asn Tyr Arg Tyr Pro Leu  
85 90 95

Thr Phe Gly Ala Gly Thr Lys Leu Glu Ile Lys  
100 105

<210> 26

<211> 108

<212> PRT

<213> Mus musculus

<220>

<223> light chain variable region (VL) of anti-CD30  
monoclonal antibody (MAb) T420

<400> 26

Asp Ile Val Met Thr Gln Ser His Lys Phe Met Ser Thr Ser Val Gly  
1 5 10 15

Asp Arg Val Ser Ile Thr Cys Lys Ala Ser Gln Asp Val Ser Thr Ala  
20 25 30

Val Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile  
35 40 45

Tyr Trp Ala Ser Thr Arg His Thr Gly Val Pro Asp Arg Phe Thr Gly  
50 55 60

Ser Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Ser Ser Val Gln Ala  
65 70 75 80

Glu Asp Leu Ala Val Tyr Tyr Cys Gln Gln His Tyr Arg Thr Pro Phe  
85 90 95

Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys Arg  
100 105

<210> 27

<211> 112

<212> PRT

<213> Mus musculus

<220>

<223> light chain variable region (VL) of anti-CD30  
monoclonal antibody (MAb) T427

<400> 27

Asp Ile Val Leu Thr Gln Ser Pro Thr Ser Leu Ala Val Ser Leu Gly  
1 5 10 15

Gln Arg Ala Thr Ile Ser Cys Arg Ala Ser Glu Ser Val Asp Ser Tyr  
20 25 30

Gly Asn Ser Phe Met His Trp Phe Gln Gln Lys Pro Gly Gln Pro Pro  
35 40 45

Lys Leu Leu Ile Tyr Arg Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala  
50 55 60

Arg Phe Ser Gly Ser Gly Ser Trp Thr Asp Phe Thr Leu Thr Ile Asn  
65 70 75 80

Pro Val Glu Ala Asp Asp Val Ala Thr Tyr Tyr Cys Gln Gln Ser Asn  
85 90 95

Glu Asp Pro Arg Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg  
100 105 110

<210> 28

<211> 113

<212> PRT

<213> Mus musculus

<220>

<223> light chain variable region (VL) of anti-CD30  
monoclonal antibody (MAb) T405

<400> 28

Asp Val Val Met Thr Gln Thr Pro Leu Thr Leu Ser Val Thr Ile Gly  
1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Ser Asp Ser  
20 25 30

Asp Gly Lys Thr Tyr Leu Asn Trp Leu Leu Gln Arg Pro Gly Gln Ser  
35 40 45

Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser Gly Val Pro  
50 55 60

Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile  
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Trp Gln Gly  
85 90 95

Ala His Phe Pro Arg Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys  
100 105 110

Arg

<210> 29

<211> 108

<212> PRT

<213> Mus musculus

<220>

<223> light chain variable region (VL) of anti-CD30  
monoclonal antibody (MAb) T105

<400> 29

Asp Ile Val Met Thr Gln Ser Gln Lys Phe Met Ser Thr Ser Val Gly  
1 5 10 15

Asp Arg Val Ser Val Thr Cys Lys Ala Ser Gln Asn Val Asn Thr Asn  
                   20                  25                  30  
 Val Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Glu Ala Leu Ile  
                   35                  40                  45  
 Tyr Ser Ala Ser Tyr Arg Tyr Ser Gly Val Pro Asp Arg Phe Thr Gly  
                   50                  55                  60  
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asn Val Gln Ser  
                   65                  70                  75                  80  
 Glu Asp Leu Ala Glu Tyr Phe Cys Gln Gln Tyr Asn Ser Tyr Pro Leu  
                   85                  90                  95  
 Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys Arg  
                   100                  105

<210> 30  
 <211> 4  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Pseudomonas  
           exotoxin (PE) carboxyl terminus addition

<400> 30  
 Lys Asp Glu Leu  
           1

<210> 31  
 <211> 4  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Pseudomonas  
           exotoxin (PE) carboxyl terminus addition

<400> 31  
 Arg Glu Asp Leu  
           1

<210> 32  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:kappa Ig  
           subclass-specific 3' end primer

<400> 32  
 gactgaggca cctccagatg ttaa

24

<210> 33  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:gamma1 Ig  
         subclass-specific 3' end primer  
  
 <400> 33  
 cagggtcacc atggagttag ttg 24  
  
 <210> 34  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:gamma2b Ig  
         subclass-specific 3' end primer  
  
 <400> 34  
 tccagagttc caagtcacag tcac 24  
  
 <210> 35  
 <211> 33  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:kappa 5' end  
         primer  
  
 <400> 35  
 ggatggtggg aagatggata cagttggtgc agc 33  
  
 <210> 36  
 <211> 30  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:gamma1 5' end  
         primer  
  
 <400> 36  
 aggggccagt ggatagacag atgggggtgt 30  
  
 <210> 37  
 <211> 30  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:gamma2b 5' end  
         primer

<400> 37  
aggggccagt ggatagactg atgggggtgt

30

<210> 38  
<211> 117  
<212> PRT  
<213> Mus musculus

<220>  
<223> heavy chain variable region (VH) of anti-CD30  
monoclonal antibody (MAb) T201

<400> 38  
Gln Val Gln Leu Lys Glu Ser Gly Pro Gly Leu Val Ala Pro Ser Gln  
1 5 10 15  
Ser Leu Ser Ile Thr Cys Thr Val Ser Gly Phe Ser Leu Ile Asp Tyr  
20 25 30  
Gly Val Ser Trp Val Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Leu  
35 40 45  
Gly Met Ile Trp Gly Asp Gly Asn Thr Asp Tyr Asn Ser Gly Leu Lys  
50 55 60  
Ser Arg Leu Ser Ile Ser Lys Asp Asn Ser Lys Ser Gln Val Phe Leu  
65 70 75 80  
Lys Val Asn Ser Leu Gln Thr Asp Asp Thr Ala Arg Tyr Tyr Cys Ala  
85 90 95  
Arg Pro Ser Thr Gly Thr Leu Phe Ala Tyr Trp Gly Gln Gly Thr Leu  
100 105 110  
Val Thr Val Ser Ala  
115

<210> 39  
<211> 110  
<212> PRT  
<213> Mus musculus

<220>  
<223> light chain variable region (VL) of anti-CD30  
monoclonal antibody (MAb) T201

<400> 39  
Glu Ile Val Leu Thr Gln Ser Pro Thr Thr Met Ala Ala Ser Pro Gly  
1 5 10 15  
Glu Arg Ile Thr Phe Thr Cys Ser Ala Ser Ser Gly Ile Ser Ser Ile  
20 25 30  
Tyr Leu His Trp Tyr Gln Gln Lys Pro Gly Phe Ser Pro Lys Leu Leu  
35 40 45  
Ile Tyr Arg Thr Ser Asn Leu Ala Ser Gly Val Pro Pro Arg Phe Ser  
50 55 60

Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Gly Thr Met Glu  
65 70 75 80

Ala Glu Asp Val Ala Thr Tyr Tyr Cys Gln Gln Gly Ser Ser Ile Pro  
85 90 95

Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys Arg Ala  
100 105 110

<210> 40  
<211> 112  
<212> PRT  
<213> Mus musculus

<220>  
<223> heavy chain variable region (VL) of anti-CD30  
monoclonal antibody (MAb) T408

<400> 40  
Gln Val Gln Leu Gln Gln Pro Gly Ala Glu Leu Val Arg Pro Gly Ala  
1 5 10 15

Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr  
20 25 30

Trp Ile Asn Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile  
35 40 45

Gly Asn Ile Tyr Pro Ser Asp Ser Tyr Ser Asn Tyr Asn Gln Lys Phe  
50 55 60

Lys Asp Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Ser Thr Ala Tyr  
65 70 75 80

Met Gln Leu Ser Ser Pro Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys  
85 90 95

Thr Leu Gly Ser Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ala  
100 105 110

<210> 41  
<211> 114  
<212> PRT  
<213> Mus musculus

<220>  
<223> light chain variable region (VL) of anti-CD30  
monoclonal antibody (MAb) T408

<400> 41  
Asp Val Val Met Thr Gln Thr Pro Leu Thr Leu Ser Val Thr Ile Gly  
1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Ser Asp Ser  
20 25 30

Asp Gly Lys Thr Tyr Leu Asn Trp Leu Leu Gln Arg Pro Gly Gln Ser  
35 40 45

Pro	Lys	Arg	Leu	Ile	Tyr	Leu	Val	Ser	Lys	Leu	Asp	Ser	Gly	Val	Pro
	50					55					60				
Asp	Arg	Phe	Thr	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile
65					70					75					80
Ser	Arg	Val	Glu	Ala	Glu	Asp	Leu	Gly	Val	Tyr	Tyr	Cys	Trp	Gln	Gly
				85					90					95	
Ala	His	Phe	Pro	Arg	Thr	Phe	Gly	Gly	Gly	Thr	Lys	Leu	Glu	Ile	Lys
			100					105					110		
Arg Ala															